

Compilation of Seams Issues By Members of the Work Group

Price Reciprocity- Wally Gibson

PRICE RECIPROCITY ISSUES RTO WEST SEAMS WORK GROUP

Order 2000 says, “We will continue to encourage reciprocal waivers of access charges between RTOs as long as they are reasonable in terms of cost recovery, cost shifting, efficiency, and discrimination.” FERC’s interest in price reciprocity among RTOs in Order 2000 comes from the same source as its interest in eliminating pancaking within RTO boundaries, that is, expanding generation markets.

The price reciprocity issues among RTOs are the same as those that exist within an RTO that is attempting to eliminating pancaked rates. There are two ways of looking at the issues, focusing on cost shifting and focusing on efficiency. FERC talks simply about eliminating pancaked access charges to recover capital costs. This could be done in a number of ways, some of which result in cost shifting and some of which do not. In either the inter-RTO case or the intra-RTO case, the elimination or minimization of cost shifting requires that the entity that used to pay some of the costs of a second (through wheeling charges) continue to pay them, even if the charges for individual transactions across the second’s system are eliminated.

From an economics perspective, it is often more crucial to eliminate multiple (but also single) access fees that recover (non-marginal) sunk capital costs on a marginal basis, i.e., on a volumetric basis. The primary barrier to efficiency is recovery of sunk costs on a marginal basis.

If both of these perspectives are adopted, and the trade between RTOs is generally unbalanced, i.e., the sales into one region are systematically different from the sales into the other region, then the task becomes one of calculating the total dollars going each way and ensuring that the region that would have paid net wheeling charges continues to pay the total net dollars to the other region. This is the same principle that was used in the “paid to/received from” calculations IndeGO used within the region.

Internal Seams – Kurt Conger

RTO West Internal Seams

Issue Discussion

Preliminary Draft

Definition:

Internal seams represent the control, planning and cost recovery boundary between RTO operated facilities and facilities that are either: (a) local distribution, (b) transmission facilities that are not specifically provided for in a TCA, or (c) generator tie-lines (integration facilities). Reasons for internal seams include: (a) established jurisdictional boundaries between wholesale and retail service (may apply to jurisdictional or non-jurisdictional utilities), (b) impediments that prevent a utility from including its transmission facilities in the RTO (e.g. private-use limits on tax exempt facilities), or (c) points of integration for non-RTO electric system devices.

Preliminary Discussions:

Non-jurisdictional transmission owners may not participate in an RTO. For that matter, jurisdictional transmission owners within the boundary of an RTO may file with FERC to not be included or to be included in a different RTO. These situations could cause problems for transmission users such that the RTO may not be beneficial, thus it may be opposed by some users. The RTO needs to be prepared to petition FERC on why an owner, within the boundary, should be a member of the RTO.

Internally, the RTO could face all aspects of items #2, #3, #4, #6, #7, #10, #13 and #23 of the Draft Consensus Issues List if all transmission users within the boundary of the RTO are not participants.

If it is assumed that all owners are members of the RTO then seams issues arise if there is no agreement with regard to:

- facilities inclusion (distinction between distribution and transmission),
- control area functions (need to be looked at as they pertain to the current definition of ancillary services),
- firm transmission rights as well as existing contracts,
- transmission owners and users that operate in two or more RTOs will highlight the problems of RTO seams if not discussed as an internal issue.
- transmission losses throughout the RTO (e.g. how to avoid pancaking),
- Planning,
- Generation and load integration,
- Operations.

All of these items will be discussed by the various work groups. The RTO must recognize and manage the potential that the transmission owners within its boundary may not be participating members.

Control Hierarchy

To the extent that there might be multiple control areas within the RTO boundary, there will be internal seams issues related to generation control, does the RTO send AGC

signals directly to the generators, or does the RTO control generators through existing control area facilities, will there be a single area control error or multiple area control area calculations within the RTO boundaries?

Planning

With respect to planning, the division of roles and responsibilities will need to be defined for planning of transmission facilities within the RTO boundary. How will conflicts between bulk transmission planning and facilities to maintain reliable local area service be resolved?

Cost Recovery

With respect to tariffs, one issue will be agreements between the ITC (and other transmission owners) and the ISO to ensure the ITC (TOs) receives its revenue requirement.

Other Operational Seams Issues

- Emergency re-dispatch
- Disturbance/Restoration
- Voltage control

Island Service Characteristics:

When internal seams create "island service" issues, the following may be true:

- Because there is no TCA, cost recovery for the "island" facilities does not occur through the RTO revenue recovery mechanism. The customers of the "island" utility bear the cost of these internal facilities and must pay the RTO for wheeling to/from their tie-lines.
- Parallel paths may affect power flows through the island. These can be monitored by the RTO for system security assessments, but the entity controlling the "island" controls the breakers and other devices that affect parallel flows.
- Losses inside the island cannot be assumed to either increase or decrease due to parallel flows caused by the external RTO controlled system.
- In the case of small utilities with subtransmission systems, Remedial Action Schemes (RAS) may limit the contingency flows caused by the RTO controlled system.
- There may be situations where the "island" facilities are required by the regional network to carry significant power flows and/or enhance transfer capabilities across rated paths. In these situations a market power test may be required to determine whether the "island" facilities can be used to artificially raise prices in markets subject to FERC jurisdiction or create undue discrimination in transmission service markets.
- "Islands" may be able to self-provide ancillary services needed for their internal and wheeling requirements.
- "Islands" may be able to provide ancillary services to the RTO market.

At one extreme, an island can be a small municipality that has one or more delivery point, yet has no measurable effect on the transmission system. At the other extreme, an island could be a control area that can measurably affect the regional transmission system by its internal control actions. Unlike the obvious characteristics of the external seams that separate an RTO from the rest of the Interconnection, the nature of the internal seams created by these two entities are vastly different.

Commercial Practices – Paul Arnold

Operations, Scheduling, and Reliability Seams Issues List

Interregional coordination and posting of ATC/TTC, i.e., posting a single path vs. posting multiple lines in a path. Coordinate Market closing times and scheduling timelines. (Scheduling Protocols)

Coordinate Ramping of schedules (e.g.: hourly schedule changes start at 00:00 and continue to 00:10, unless otherwise coordinated)

Communication procedures for dispatch of reserve service power products (On Demand Obligation Energy) and 10-minute Dispatch of supplemental energy. This topic could be expanded to include other types of ancillary service products that are dispatched across the seams, i.e. boundaries between control areas and RTOs.

Coordinate Operating and Curtailment procedures at the seams. For a nomogram involving more than one transmission path and more than one RTO, a good model to consider would be the PATF Curtailment procedure. For paths that are operated in series, such as the PACI facilities north of COB and PACI facilities, south of COB, decisions need to be made on curtailment protocols so that market impacts can be minimized. Currently, cuts are made based on market economics and capacity shares north of COB. This can result in double cutting for a contingency.

Coordinate planned outages that impact transfer capacity at the seams. (Macro level)

Common Dispatch and Scheduling Communication procedures for emergency and non-emergency situations.

Meaningful and effective Interconnection Agreements between the RTO and the TOs and between the RTO and other interconnected parties.

Devising equitable ways to deal with parallel flow. [May not be an issue if network scheduling is used instead of contract path]

Common mechanisms to share information on line flows, voltages, scheduling and tagging for tracking schedules and flow across interconnections. (Data/Criteria - System data gathering for Control center information & telemetry)

Common reliability standards (NERC WSCC, NWPP, etc)

Coordinated planning to maintain capacity at the interconnection. Regional OTC studies

Coordinate operational planning to address regional power supply adequacy caused by extreme summer heat or Arctic Express conditions.

Identify Roles and Responsibility for Reliability among the RTOs, the TOs, RTO customers, and generation suppliers.

Adopt common methodology for rating facilities.

Clarification of roles and responsibility between the RTO and NERC/NAERO and WSCC/WIO.

Common treatment of generation resources connected to the RTO grid and RTO control area. This implies a standard contract with suppliers of generation services including but not limited to generation dispatch on either side of the seam boundary.

Loop Flow Mitigation procedures – review with the intent to modify so that the users of a particular path are not unnecessarily burdened financial to compensate for others use.

Market mechanism employed to handle congestion at the seams with the intent to mesh various congestion models. (The Market Mechanism is an 'operations model' i.e., addresses the nomograms at the seams.)

Regional RAS and reliability safety nets.

Computer program protocols & computer systems